

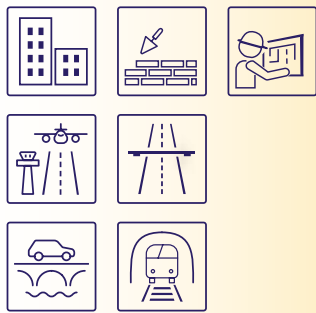
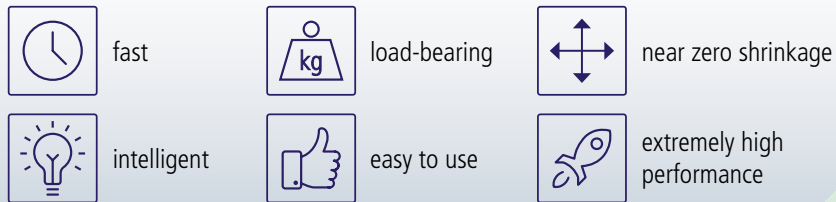


# Rapid Set® Cement Technology faster. easier. **unique.**

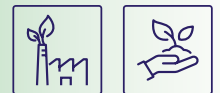


Rapid Set  
changes the game!

# The ONE-FOR-ALL



maximum versatility  
multiple applications  
with one product



30 % less CO<sub>2</sub> emissions  
compared to Portland cement  
4 times longer lifetime than  
Portland cement


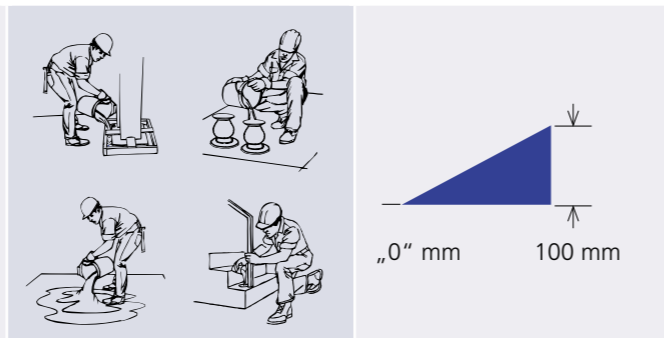

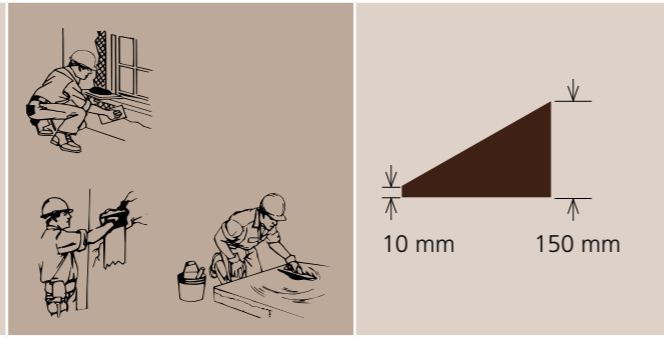

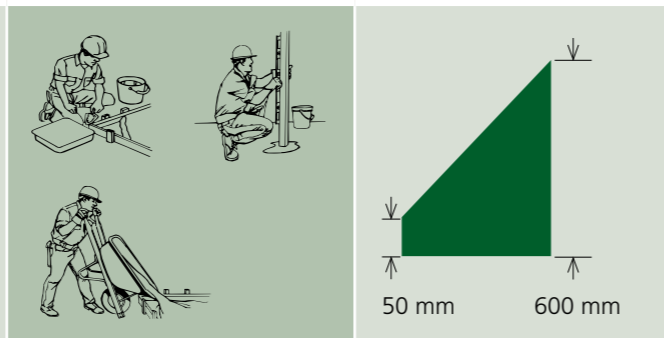
# ALL IN ONE!


## Maximum profitability through maximum efficiency!





- ✓ efficient work performance
- ✓ fast usability
- ✓ minimizing downtimes
- ✓ cost reduction
- ✓ long-term durability
- ✓ superior quality
- ✓ multipurpose
- ✓ optimizing logistics
- ✓ 12 months shelf-life

# Unique Rapid Set® Products

	FIELDS OF APPLICATION	LAYER THICKNESS	INITIAL SET <sup>1)</sup>	READY FOR TRAFFIC <sup>1)</sup>	READY FOR COVERING <sup>1)</sup> after approx. 2 hours <sup>3)</sup> after approx. 16 hours <sup>3)</sup>	COMPRESSIVE STRENGTH <sup>1)</sup> after 60 minutes after 180 minutes after 7 days after 28 days	MODULUS OF ELASTICITY	PHARMACY accelerators, plasticizers, retarders	SULFATE RESISTANCE	FROST/DEICER RESISTANCE	PENETRATION BEHAVIOR	SPECIAL FEATURES
 <p><b>CEMENT ALL®</b> Multipurpose Repair Mortar</p>	General concrete repair, re-profiling, casting, anchoring, injection, formed work, grouting, industrial and highway construction, civil engineering, precast industry, indoors and outdoors, in wet environments		after 15 min.	after 60 min.	vapor-permeable coverings (e.g. tiles, vapor-permeable color coats)  diffusion-proof coverings (e.g. parquet, water-proofing)	> 20,0 N/mm <sup>2</sup>	31.700 N/mm <sup>2</sup>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> near zero shrinkage <input checked="" type="checkbox"/> faster setting <input checked="" type="checkbox"/> higher strength <input checked="" type="checkbox"/> no primer <input checked="" type="checkbox"/> applies to featheredge
 <p><b>MORTAR MIX</b> Fast Setting Repair Mortar</p>	General concrete repair, re-profiling, underlayment, formed work, road repair, industrial and highway construction, civil engineering, precast industry, indoors and outdoors, in wet environments		after 15 min.	after 60 min.		> 17,0 N/mm <sup>2</sup>	26.827 N/mm <sup>2</sup>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	NPD <sup>2)</sup>	<input checked="" type="checkbox"/> near zero shrinkage <input checked="" type="checkbox"/> faster setting <input checked="" type="checkbox"/> higher strength <input checked="" type="checkbox"/> no primer <input checked="" type="checkbox"/> applies overhead
 <p><b>CONCRETE MIX</b> Very Fast Setting Concrete</p>	General concrete repair, construction of walkways and roads, concrete and machinery foundations, anchoring, formed work, industrial and highway construction, civil engineering, precast industry, indoors and outdoors, in wet environments		after 15 min.	after 60 min.		> 19,0 N/mm <sup>2</sup>	30.690 N/mm <sup>2</sup>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	NPD <sup>2)</sup>	<input checked="" type="checkbox"/> near zero shrinkage <input checked="" type="checkbox"/> faster setting <input checked="" type="checkbox"/> higher strength <input checked="" type="checkbox"/> no primer <input checked="" type="checkbox"/> applies up to 600 mm

 **SET Control** – Additive to slow down the setting time

 **FLOW Control** – Additive to improve the fluidity

 **FAST** – Additive to accelerate the setting time

<sup>1)</sup> Technical data at + 20°C and 65 % relative air humidity  
<sup>2)</sup> NPD = No Performance Determined  
<sup>3)</sup> It is recommended to check the residual moisture by suitable measuring method



Cleaning of damaged structure

Pre-wetting with water

Measuring of mixing water and pouring into mixing bucket

Adding the Rapid Set® repair mortar

Mixing with double stirrer

Re-profiling with Rapid Set® repair mortar

Smoothing of surface

Curing only with water (several times, approx. 1 hour)

# Maximize Performance with Advanced Rapid Set® Technology

# KORODUR and CTS Cement Two Strong Partners

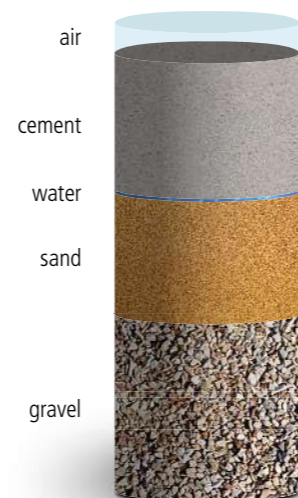
## Reaction Process: Comparison between Portland cement and Rapid Set® Cement

The chemical reaction process of conventional Portland cement in comparison to Rapid Set® Cement, a belitic calcium sulfoaluminate (BCSA) cement, differs significantly. Rapid Set® Cement with a w/c ratio = 0,45 binds the added water close to 100 % chemically.

### Portland Cement

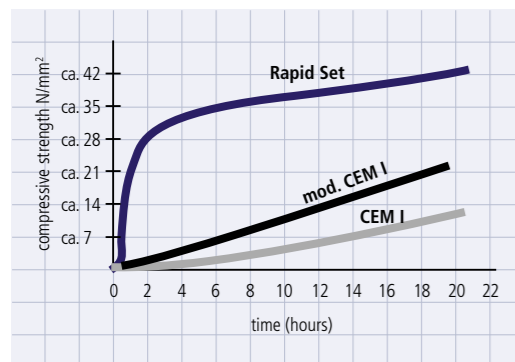


### Rapid Set® Cement



## Unique Performance of Rapid Set®

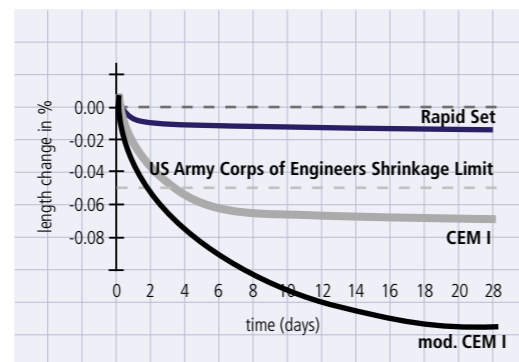
### Strength



Rapid Set® – very high strength values after final set

The above graphic shows clearly improved high early strength development of a Rapid Set® based system, specially in comparison to conventional Portland cements (CEM I) and modified Portland cements (accelerated). After 1 hour and final set a compressive strength of > 20,0 N/mm² is definitely achieved.

### Shrinkage



Rapid Set® – clearly less shrinkage than Portland cement

The above graphic shows typical shrinkage process of conventional binders (CEM I and mod. CEM I) in comparison to the Rapid Set® Technology. In the U.S. the limit value for non-shrinkage ranges at < 0,05 % (US Army Corps of Engineers Shrinkage Limit). This is definitely achieved with the Rapid Set® Technology.

## Exclusive License Partnership for Europe!

In the year 2012 KORODUR, world market leader in hard aggregate industrial flooring, started the exclusive license partnership with the American market leader in high performance cements CTS Cement | Rapid Set®.

## Unique Rapid Set® Technology new in Europe, proved in the U.S.

The American manufacturer and market leader in special cements, CTS Cement, has developed the unique and high performance Rapid Set® Technology – entering a new level of cement technology and bringing about solutions for fundamental problems of the construction industry.

The Rapid Set® Technology is based on the high performance, innovative, fast and non-shrink hydraulic binder "Rapid Set® Cement". The special cement receives its unique character by advanced and precise manufacturing techniques. Rapid Set® Cement is not a Portland cement. No chlorides or accelerators are added.

Rapid Set® Cement provides the Rapid Set® repair mortars with their superior and unique efficiency: Already in one hour extremely high strength! Immediate usability! Non-shrink! Multipurpose! Sulfate resistant! Excellent durability! Reduced CO<sub>2</sub> emissions!

## Rapid Set® stands for Innovation, High Performance and Versatility!

Over the past 40 years Rapid Set® Cement has become the first choice of contractors in the U.S. in respect of fast and powerful problem solutions.

Rapid Set® Cement – green to the core! Environmentally friendly, durable and LEED compliant.



CTS Cement is a member of the U.S. Green Building Council. Rapid Set® Cement cuts CO<sub>2</sub> emissions by 30 % compared to standard Portland cement.

- ✓ HIGHER PERFORMANCE
- ✓ FASTER SETTING
- ✓ MORE DURABILITY
- ✓ MULTIPURPOSE
- ✓ LESS SHRINKAGE
- ✓ LESS CO<sub>2</sub> EMISSIONS

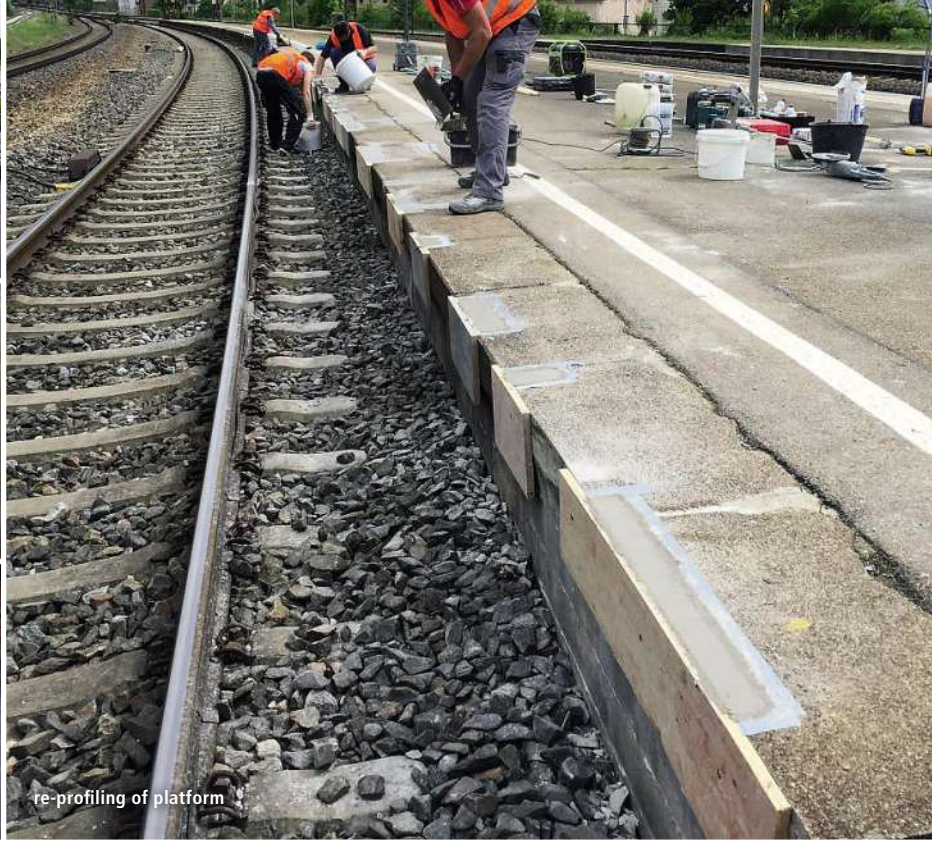


Rapid Set® Technology – proved over years in the U.S. Pic. from left: Hoover Dam, Pentagon





liquid-tight repair at gas stations



re-profiling of platform



pipe repair



filling of ceiling joints



bridge abutment



new ramp



concrete corrosion (before repair)



grouting of steel column



crack repair in subway



repair shaft head



repair of feeding table



concrete corrosion (after repair)



renovation of threshold



re-profiling reinforced concrete columns



bridge repair



grinding, smoothing or structuring



production of countertop



repair at airport (removal and installation overnight)



barrier-free pavement repair



pointing of natural stone tiles



stairway renovation



ready to take full load in 2 hours



Be a game changer !



**CEMENT ALL®**

also available in handy 5 kg small containers



**CEMENT ALL® Plus**

mineral, synthetic-modified utmost protection against carbonation with evidence acc. to DIN EN 13295, meets the exposure classes: XC4, XF4, XA3



**LevelFlor®**

innovative, self-leveling floor underlayment for interior and exterior use



**ASPHALT REPAIR MIX**

Fast-setting, cementitious asphalt repair material



**DOT Europe CONCRETE MIX**

fast-setting, fibre reinforced concrete for statically relevant concrete repair for repair and construction of roads, sidewalks, driving lanes, airport pavements and runways, etc.



**NEODUR Level**

mineral, self-leveling, fast-setting industrial floor

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[www.korodur.de](http://www.korodur.de)

[www.korodur-rapidset.de](http://www.korodur-rapidset.de)

